IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

CAMERON INTERNATIONAL CORPORATION, Plaintiff, vs. NITRO FLUIDS L.L.C., Defendant.	§ § § § § § § § §	CIVIL ACTION NO. 6:20-CV-00125-ADA JURY TRIAL REQUESTED

DEFENDANT NITRO FLUIDS L.L.C.'S
OPENING CLAIM CONSTRUCTION BRIEF

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EXHIBIT LIST

No.	Description
1	U.S. Patent No. 9,915,132 ("the '132 patent")
2	U.S. Patent No. 10,385,645 ("the '645 patent")
3	U.S. Patent No. 8,905,056 ("the '056 patent")
4	U.S. Patent Application No. 15/375,558, Original Specification, December 12, 2016
5	U.S. Patent Application No. 15/375,558, Preliminary Amendment, February 10, 2017
6	U.S. Patent No. 9,932,800
7	Final Written Decision, Paper 34, IPR2019-00852 (September 2, 2020)
8	Drilling Lexicon, Oil and Gas Drilling Glossary, dictionary definitions for "christmas tree," "frac tree" and "manifold" (NITRO-00063 - 970, 1046 – 1051)
9	Excerpts from Transcript for Deposition of Dr. Gary Wooley, taken on February 21, 2020 ("Wooley Depo")
10	Original Complaint, *Cameron International Corp. v. Nitro Fluids*, 4:18-cv-02533, S.D. Tex., Dkt. 1 (S.D. Tex. July 20, 2018)
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I. Introduction

While the parties dispute the meaning of seven terms, a key issue is whether the terms "fluid conduit" of U.S. Patent 9,915,132 and "[rigid] fluid pathway" of U.S. Patent 10,385,645 would be understood by a person having ordinary skill in the art to necessitate "adjustment joints" or "[swivel / pivot] joints." When viewed in the context of the specification the answer is clear—adjustability is fundamental and indispensable to the claimed inventions. *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010) ("Claim terms are not construed in a vacuum divorced from the specification.").

The Patents-in-Suit focus exclusively on the problem of misalignment between a fracturing manifold and fracturing trees. The proposed solution is the use of "adjustment joints" or "[swivel/pivot] joints" that impart adjustability; all embodiments include these joints to address this problem. As this is the sole problem repeatedly emphasized in both patents, and given that every single embodiment discloses adjustable components as the solution, the patents "read as a whole suggests that the very character of the invention requires [this] limitation." *Alloc, Inc. v. ITC*, 342 F.3d 1361, 1370 (Fed. Cir. 2003). As such, a person of ordinary skill in the art would understand adjustability to be the *raison d'etre* of the claimed fluid connections in both patents.

Plaintiff proposes "plain and ordinary meaning" so that it can stretch the claims' scope to cover non-adjustable fracturing systems, a concept never suggested in either of the Patents-in-Suit. In fact, Plaintiff originally sued Nitro for infringement of two parents to the '645 Patent; Plaintiff was forced to dismiss those claims because Nitro's system is not adjustable. Plaintiff amended the specification of subsequent patents (including the '645 patent) to *delete* references to "adjustability," and retroactively attempt to broaden their disclosures to target Nitro's system. But Plaintiff cannot erase the fact that adjustability is woven into the very fabric of the disclosures, and that it is a fundamental and indispensable requirements of the inventions.

II. Background

A. The '132 Patent

The '132 Patent discloses an "integral fracturing manifold": a manifold coupled to fracturing trees without using separate output lines between the manifold and trees. Ex. 1, 3:34-39, 4:14-27. The manifold must be able to accommodate wellheads that are unevenly spaced and installed at different elevations. *Id.*, 5:4-11. The manifold therefore includes "adjustment joints" (allowing length-wise adjustment) and "pivot joints" (allowing angular adjustment). *Id.*, 5:4-6:3.

Every embodiment includes "adjustment joints" 46 and "pivot joints" 56 as part of the manifold 22. Figures 1 and 2 provide schematic diagrams of the adjustable fracturing system 10, which depict frac manifold 22 coupled directly to **frac trees 20** on wellheads 16. *Id.*, 3:12-3:42.

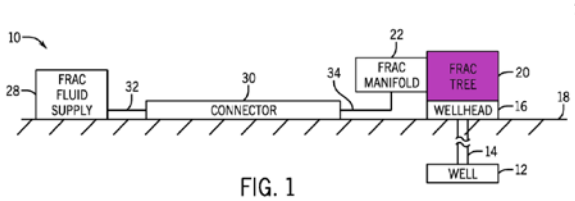


FIG. 1

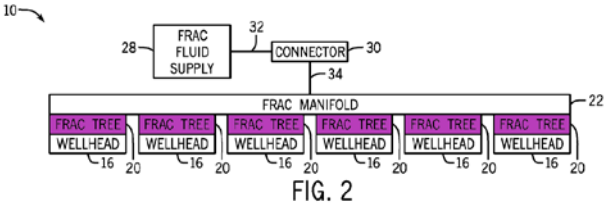


FIG. 2

Figures 3-5 illustrate a portion of the fracturing system shown in Figures 1 and 2. *Id.*., 3:63-64. In reference to Figure 3 (annotated in color below), the '132 Patent (5:4-17) explains that:

In a production field, wellheads may be unevenly spaced from one another and installed at different elevations. But in the depicted portion 40, the inclusion of **adjustment joints 46** and **pivot joints 56** in the integral fracturing manifold 22 facilitates installation of the manifold 22 on the **fracturing trees 20**[1] and *allows accommodation of some variations in well spacing and elevation*. Particularly, the **adjustment joints 46** may be extended or retracted to adjust the length of the manifold 22 (and *accommodate variations in distance* between fracturing trees 20) and the **pivot joints 56** (e.g., ball joints) allow portions of the

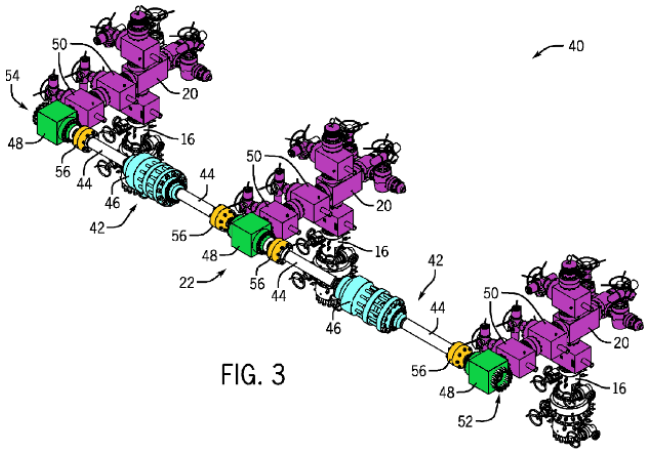


FIG. 3

[1] The '132 Patent makes clear that valves 50 are part of the fracturing trees 20 and not the manifold 22. *Id.*, 4:28-32, 4:43-47.

manifold 22 to be positioned at angles with respect to one another (*to accommodate one or both of elevation differences or non-linearity of spacing* between fracturing trees 20).[2]

Figures 4 and 5 provides an elevation and top plan view of this system showing how the adjustment and pivot joints accommodate elevation and lateral spacing differences. *Id.*, 5:19-49. The remaining figures provide detailed views of the adjustment joint 46. *See, e.g.*, *id.* at 6:25-51, Fig. 7, 8 (illustrating how the adjustment joint retracts and extends to aid in alignment and coupling between manifold and trees).

Thus, *the entire focus* of the '132 Patent is "adjustment and pivot joints [that] can accommodate spacing and elevation differences between the fracturing trees." *Id.* at Abstract.

B. The '645 Patent

The '645 Patent explains that "fracturing manifolds and associated fracturing trees are typically large and heavy, and may be mounted to other equipment at a fixed location, making adjustments between the fracturing manifold and a fracturing tree difficult." Ex. 2, 1:44-48. The '645 Patent explains that "[w]hile large fracturing lines (e.g., with a seven-inch bore) are **traditionally** difficult to adjust between a fracturing manifold and a fracturing tree, the **adjustability provided in the presently disclosed system 10** enables large fracturing lines to be aligned and connected to such components **more efficiently**." *Id.* at 5:37-42. Thus, the '645 Patent concedes that the use of a single seven-inch bore between a frac tree and manifold was known and states that the "adjustability provided" allows for more efficient alignment than the prior art.

Figures 1 and 2 provide schematic diagrams of adjustable fracturing systems like those in Figures 1 and 2 of the '132 Patent, except **fluid connections 26** between the manifold 22 and **frac trees 20** are depicted. *Id.* at 3:52-4:15.

[2] Unless otherwise noted, all emphasis herein is added.

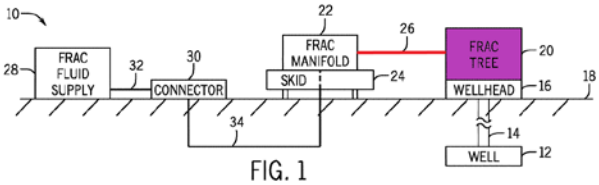


FIG. 1

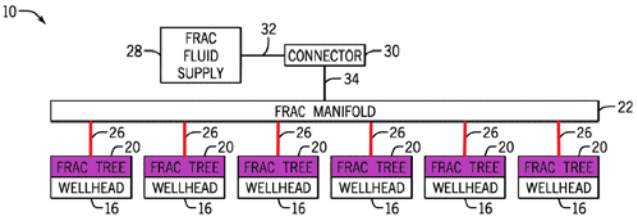


FIG. 2

Rather than using adjustable components only in the fracturing manifold 22 (as in the '132 Patent), the '645 Patent also uses "adjustment joints" and "swivel joints" for the **fluid connection 26** *between* the fracturing manifold 22 and the **fracturing tree 20** to "facilitate connection of the fracturing manifold 22 to the fracturing tree 20." *Id.* at 4:50-52.

As explained below, all embodiments and patent figures reference or depict an adjustable fracturing system designed to allow easier alignment of the fluid connection between the manifold and tree. This adjustability permits operators to replace multiple, smaller lines with a single larger line. *Id.* at 5:42-46. However, the invention is not limited to single lines and applies to frac systems with multiple conduits between a manifold and each tree. *Id.*, 4:32-37.

Figure 3 illustrates a portion of the adjustable fracturing system 10 and shows **adjustment joints 60** in fracturing manifold 22 between **connection blocks 48** (like the '132 Patent). It also illustrates **adjustment joints 62**, **64** used to facilitate making up the **connection 26** between the fracturing manifold 22 and the **fracturing tree 20**. *Id.* at 4:15-55. Adjustment joints 60, 62, 64 are very similar to the adjustment joints disclosed in the '132 Patent, as they extend or retract (as shown by arrows 68, 70, 72) to vary the length of the conduit. *Id.* at 4:61-66.

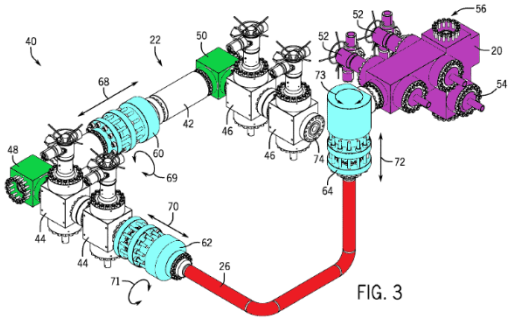
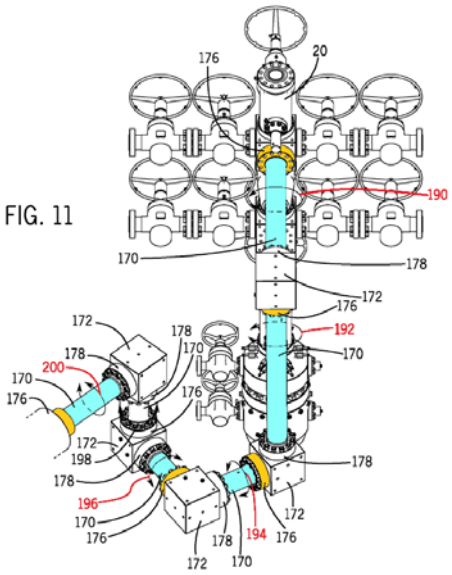


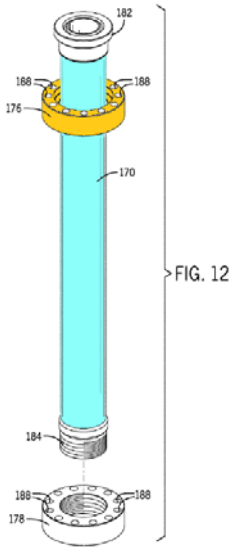
FIG. 3

Figures 4 to 8 illustrate various detailed depictions of adjustment joints, which are very similar to the adjustment joints in Figures 6 to 8 in the '132 Patent. *Id.* at 6:46-54. Figure 9

illustrates an adjustment joint in the form of a rotatable "pipe connector 130." *Id.* at 7:52-65.

Figures 10-11 are directed toward adjustment joints in the form of **rotatable pipe joints 170** and/or **swivel connections** (having swivel rings 176), with arrows 190, 192, 194, 196, 200 illustrating their rotatability. *Id.* at 8:26-32; *Id.* at 8:43-57. Figure 12 shows a more detailed illustration of the rotatable pipe joints 170 and swivel connections.





Thus, *every embodiment of the '645 Patent* is directed toward addressing the difficulty in adjusting between the fracturing manifold and tree due to "large and heavy" components, by imparting adjustability to an otherwise non-adjustable system.

C. Plaintiff's Distortion of the Alleged Inventions and Patents-in-Suit

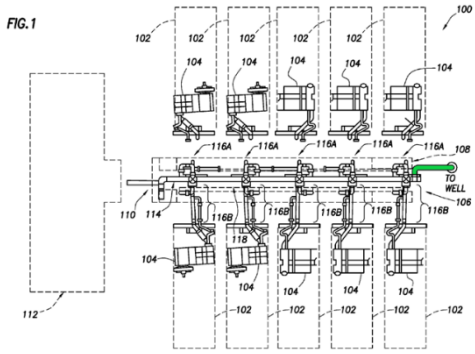
The '132 Patent is clearly directed toward an invention that solves misalignment issues—namely by use of adjustment joints *in a fracturing manifold*. Similarly, the '645 Patent is clearly directed toward an invention that solves the issue of misalignment by further using adjustment joints *in the connection between* a fracturing manifold and fracturing tree. Despite these unambiguous disclosures, Plaintiff has consistently taken the position that the purported invention is the use of a single fluid line between a fracturing manifold and tree, using long-known, non-

adjustable connectors. *See Cameron Int'l Corp. v. Butch's Rat Hole & Anchor Service, Inc.*, 6:20-cv-00124-ADA, Dkt. 27 at 13-14.

1. Plaintiff did not "Invent" Single Line Manifold Fracturing

Plaintiff's contention that it "invented" the use of a single frac line between a fracturing manifold and tree is disproven by a single, crystal-clear prior art reference, U.S. Patent 8,905,056 to Kendrick. It illustrates a single fluid conduit (**green**) from a fracturing manifold 106 to a well (shown below) and explains:

> As depicted in FIG. 1, certain embodiments of the **manifold system** 106 may be configured for a **single-line interface** to the well head …. The **single-line interface** may be capable of delivering fluid at similar rates and pressures as would have previously required four 4" lines or six 3" lines.



Ex. 3, 6:59-64. Thus, the use of a single line between a fracturing manifold and wellhead was well-known in the art. Declaration of Randy Tolman ("Tolman Decl.") ¶ 28.

2. The Patents-in-Suit do not Support Plaintiff's Characterization of the "Invention"

Neither patent even remotely suggests that use of a single fluid conduit was novel. The '132 Patent discloses no embodiments having any output lines from the manifold to the tree. Rather, it teaches that the fracturing manifold is "integrated" with the trees: "i.e., coupled *without using separate output lines or frac iron*." Ex. 1, 3:34-39. Moreover, the '132 Patent admits that the use of a single line between a manifold and a tree was well-known in "conventional fracturing manifolds." *Id.*, 4:15-23. Thus, the patent itself refutes any contention that a single line was novel.

The '645 Patent teaches that "large fracturing lines (e.g., with a seven-inch bore) are *traditionally* difficult to adjust between a fracturing manifold and a fracturing tree," clearly conceding that single large conduits were known in the art. Ex. 2, 5:37-42. The patent immediately goes on to state that "*the adjustability provided in the presently disclosed system 10* enables large

fracturing lines to be *aligned and connected to such components more efficiently*." *Id.* Thus, the patent seeks to improve upon the prior art use of single, large frac lines via adjustable connectors, which are indispensable components of every embodiment. In fact, the '645 Patent teaches that while all of the embodiments depict a single line from the manifold to each tree, "a fracturing system may include *a greater number of conduits* between the fracturing manifold and a fracturing tree in other embodiments." *Id.* at 4:31-38. If the use of a single line was an inventive concept, the Patents-in-Suit would not teach using more than one line.

Aware that nothing supports stretching the patents to cover the use of non-adjustable components, Plaintiff mischaracterizes an embodiment disclosed in Fig. 10: "In some instances, the adjacent pipes 170 and connection blocks 172 could be rotated to desired positions *before assembling these components together (e.g., via a studded connection).*" *Butch's Rat Hole*, 6:20-cv-00124-ADA, Dkt. 27 at 11. But this merely states that **rotatable** pipe joints 170 and connection blocks 172 can be rotated and aligned *before* connection using studs, as opposed to connecting them and **then** adjusting them via rotation. A studded connection is a type of connection, used by the disclosed adjustment joints. *See e.g.*, Ex. 2, 6:24-31, 8:16-18.

D. Plaintiff's Amendments to the Specification to Erase References to "Adjustability"

If the disclosures of the '645 Patent supported Plaintiff's position, it would not have needed to delete multiple passages in the specification referencing "adjustability." Plaintiff originally sued Nitro in Houston for alleged infringement of U.S. Patents 9,068,450 and 9,518,430. Ex. 10 ¶¶ 5-6. The '645 Patent is an indirect continuation of these patents, meaning they have substantively identical disclosures. Ex. 2 ("Related U.S. Application Data"). Plaintiff was forced to dismiss those infringement claims after the court ordered an in-person inspection, which demonstrated that Nitro could not infringe because it does not use adjustment joints. *See* Ex. 11.

Unfortunately, the dismissal was not the end of the dispute. Unbeknownst to Nitro, Plaintiff

was amending the specification of a continuation in the family (now U.S. Patent No. 10,094,195), to eliminate all references to "adjustability" in the Abstract and Summary of the Invention. The original application for the '195 Patent shows what Plaintiff (and the inventor) understood to be the invention, until—after determining it needed to broaden the invention to target Nitro's non-adjustable systems—Plaintiff attempted to retroactively change what was invented by deleting large swaths of the specification relating to "adjustability."

In the original application, the Abstract described the invention as "[a]n ***adjustable*** fracturing system . . . . the fluid conduit [coupled between manifold and tree] is an ***adjustable*** fluid conduit that allows an operator to ***vary a dimension*** . . . to facilitate coupling . . . between the [manifold and tree]." Ex. 4 at 24. But Plaintiff later (1) changed the title from "***Adjustable*** Fracturing System" to simply "Fracturing Fluid Distribution Systems and Methods"; (2) deleted all references to adjustability in the abstract, while adding references to use of a single fluid conduit; (3) deleted from ¶ [0005] (1:61-2:3 in the '645 patent) all references to adjustability, including "adjustment joints . . . provided in the form of . . . pipe connectors or rotatable pipes," while adding a reference to a single, large-bore conduit between the manifold and a tree; and (4) deleted all original claims, which all required adjustability. Ex. 4, 17-20; Ex. 5, 2-9.

Plaintiff understood that it could not target Nitro with an invention requiring adjustable components, so it deleted as many references to adjustability as possible. But the true nature of the original invention remains, as amply demonstrated by the illustrated embodiments. Plaintiff cannot retroactively change the invention or construe the claims to cover systems outside the invention by trying to scrub away its very nature. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) ("The claims are directed to the invention that is described in the specification; they do not have meaning removed from the context from which they arose") (internal citations and quotation

marks omitted).

III. Disputed Claim Terms

A. "fluid conduit" ('132 Patent, Cl. 9)

Nitro	Plaintiff
channel for conveying fluid, comprising an adjustment joint or pivot joint	plain and ordinary meaning

The dispute centers on whether "fluid conduit" would be understood by a POSITA to include a feature fundamental to the disclosed invention—*i.e.*, an adjustment or pivot joint that addresses spacing and elevation differences between a manifold and frac tree. *Supra* Section II.A.

"The process of construing a claim term begins with the words of the claims." *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1290 (Fed. Cir. 2015). In the claim itself, "fluid conduit" does not refer to simply a pipe or hose; it refers to the collection of components that form a fluid channel, including the later claimed "first connection block," "second connection block," and "one or more pipe sections." Tolman Decl. ¶ 21. If the analysis ended here, "fluid conduit" would be quite broad. But claims are not viewed in a vacuum:

> [T]he claims **must be read in view of the specification**, of which they are a part. A patent's specification **provides necessary context** for understanding the claims, and **is always highly relevant** to the claim construction analysis.

Abbott Labs. v. Sandoz, Inc., 566 F.3d 1282, 1288 (Fed. Cir. 2009). In other words, context matters. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) ("[C]laim construction requires the court to determine what claim scope is appropriate in the context of the patents-in-suit.").

A person of ordinary skill in the art, having reviewed the entire '132 Patent, would understand that "fluid conduit" includes an adjustment or pivot joint, as an indispensable component of the fluid conduit disclosed in the specification. Tolman Decl. ¶ 22; *Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1324 (Fed. Cir. 2008) ("The claims of the patent must be read in light

of the specification's consistent emphasis on this fundamental feature of the invention."); *see also Phillips*, 415 F.3d at 1316. The '132 Patent repeatedly identifies, as the only problem that it is trying to solve, the spacing and elevation differences between a manifold and frac trees. *See e.g.*, Ex. 1, Abstract, 5:4-5, 2:3-6 (Summary of Invention) ("The adjustment and pivot joints facilitate connection of the manifold and allow the manifold to *accommodate variations in well spacing and elevation*"). Unsurprisingly, the only system disclosed in the '132 Patent provides a solution to this problem. The patent teaches that "[t]he manifold 22 includes a ***conduit*** 42 . . . that routes fracturing fluid to the fracturing trees 20. The ***conduit*** 42, in turn, includes sections of pipe 44, **adjustment joints 46**, **connection blocks 48**, and **pivot joints 56**." *Id.* at 3:67-4:5. A POSITA would thus recognize that the "fluid conduit" is not simply a collection of any parts that form a fluid channel; it is collection of parts, including the adjustment and pivot joints fundamental to solving the identified problem. Tolman Decl. ¶¶ 23-25.

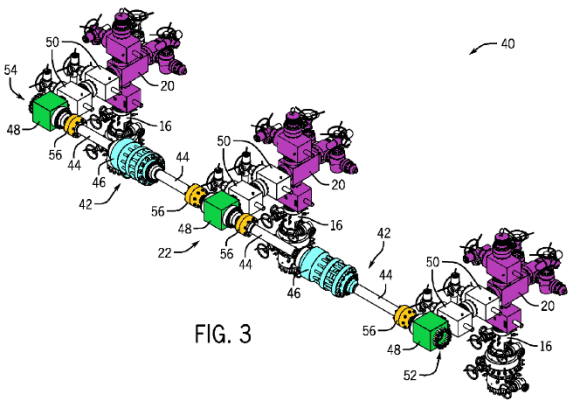


FIG. 3

A POSITA would further recognize that the use of adjustment joints or pivot joints in the manifold (i.e., fluid conduit 42) is the only solution disclosed in the '132 Patent. *Id.* ¶ 26. This solution—i.e., adjustability—is discussed repeatedly with respect to the embodiments in the '132 Patent, *all* of which include adjustment and pivot joints. *Supra* Section II.A. The entire patent is about adjustability, and the specification is replete with references to various forms of "adjust" (41 appearances) and "pivot" (15 appearances). *See generally* Ex. 1. A POSITA would easily recognize the indispensable nature of adjustability to the fluid conduit of the claimed invention. Tolman Decl. ¶¶ 26-29.

The ‘132 Patent does not disclose any embodiment without adjustment joints. *Id.* ¶ 24. This is important because claim terms are viewed in the context of the specification from the perspective of POSITA. The ultimate question is then whether a POSITA, having reviewed the entire patent, —discussing only the problem of “spacing and elevation differences” and disclosing adjustment/ pivot joints to solve this problem—would somehow conclude that the claimed “fluid conduit” excludes the only point of novelty. The answer is clearly no. *Id.* ¶ 29; *see Alloc*, 342 F.3d at 1370 (a claimed invention is limited “when the specification read as a whole suggests that the very character of the invention requires the limitation be a part of every embodiment”); *see also Praxair, Inc. v. ATMI, Inc.*, 543 F.3d 1306, 1324 (Fed. Cir. 2008) (emphasizing that “claims must be read in view of the specification, of which they are a part,” and, after finding that “the ***fundamental object*** of the invention . . . is to prevent a hazardous situation from the uncontrolled discharge of gas,” concluding that “[t]he claims of the patent must be read in light of the specification’s ***consistent emphasis on this fundamental feature of the invention***.”).

Plaintiff proposes plain and ordinary meaning so that it can read the asserted claims on fracturing systems that use non-adjustable and age-old rigid connectors. In doing so, Plaintiff improperly views the claims in a vacuum, divorced entirely from the specification. Plaintiff cannot point to a single embodiment not possessing the adjustability feature, nor any embodiment where only non-adjustable components are used. No such embodiment exists because it would be incapable of solving the elevation and spacing problem that the specification emphasizes the inventor was addressing. For these reasons, the proposal of plain and ordinary meaning should be rejected; nothing in the ‘132 Patent supports that a POSITA reading the claimed “fluid conduit” to include non-adjustable components. *Phillips*, 415 F.3d at 1316 (“a claim should be construed in a manner that … most naturally aligns with the patent’s description of the invention”).

B. "[rigid] fluid pathway" ('645 Patent, Cls. 1, 9, 10, 14, 16, 17, 19 20)

Nitro	Plaintiff
[rigid (i.e., inflexible)] route for fluid flow that comprises an adjustment joint or swivel joint	plain and ordinary meaning

The dispute is whether the term "[rigid] fluid pathway," which is not used anywhere in the specification and is not a term of art (Tolman Decl. ¶ 35), would be understood by a POSITA to include an adjustment joint or swivel joint.

While this term is not used in the specification, the full context of the claims provides some guidance as to the meaning of "[rigid] fluid pathway." It is clear that the "[rigid] fluid pathway" includes various components (including the claimed "rigid fluid conduits," "pipe joints," and "connection blocks") that provide a route for fluid flow from the claimed manifold to a respective fracturing tree. *See e.g.*, Ex. 2, 9:56-10:8, 11:10-24. Thus, a "rigid fluid pathway" is not a single pipe, but a collection of components that provide a route for fluid flow. Tolman Decl. ¶ 36.

Of course, this term must be viewed in the context of the specification. *See O2 Micro*, 521 F.3d at 1351. A POSITA would understand, having reviewed the patent for all that it teaches, that the claimed "[rigid] fluid pathway" necessarily includes an adjustment or swivel joint because that is an indispensable component of the disclosed invention. Tolman Decl. ¶ 37; *Pfizer, Inc. v. Teva Pharms. USA, Inc.*, 429 F.3d 1364, 1373 (Fed. Cir. 2005) ("The person of ordinary skill in the art is deemed to have read the patent claim term in the context of **the entire patent**. It is necessary to consider the specification **as a whole**…").

The '645 Patent repeatedly and unambiguously describes the sole problem it is trying to solve as the difficulty associated with making adjustment to rigid, non-adjustable fluid conduits. Tolman Decl. ¶ 38 (citing, *e.g.*, Ex. 2, 1:44-48, 5:37-39, 4:19-21, 4:61-66, 8:32-37). Thus, a POSITA would recognize that the exclusive problem described in the specification is the difficulty

associated with adjusting traditional heavy, rigid fluid connections. Tolman Decl. ¶ 39.

A POSITA would further recognize that every embodiment discloses an alleged solution to this problem, namely adjustment or swivel joints in the fluid route between the manifold and fracturing tree. *Id.* ¶ 40. Figure 3 depicts a portion of "adjustable fracturing system" 10, illustrating a rigid fluid route comprising **adjustment joints 62** and **64** and fluid conduit 26, which connects the manifold 22 to the **fracturing tree 20**. Ex. 2, 4:57-61. The specification emphasizes the importance of having these adjustment joints to "facilitate" solving the professed problem. *See e.g.*, *id.* at 4:61-66 ("The adjustment joints . . . *facilitate such alignment and coupling* of the fluid connection by allowing an operator to manipulate the position of the fluid connection 26"*); id.* at 4:67-5:3, 4:50-53, 6:6-10; 6:14-18; 7:2-8; 7:28-32.

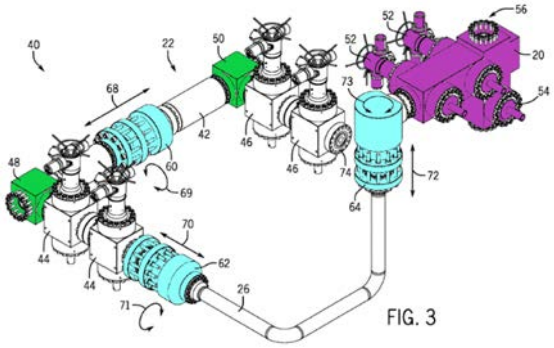


FIG. 3

The specification also teaches that the proposed solution (i.e., "adjustment joints") can be rotatable pipe joints 170, with or without swivel rings 176. Both rotatable pipe joints 170 and swivel rings 176 provide for "rotational" freedom to overcome the adjustment issues of the rigid, non-adjustable connections of the prior art. *Id.* at 8:37-40 ("[T]he fluid conduits 26 with rotatable components have three rotational degrees of freedom . . . the adjacent pipes 170 and connection blocks 172 could be rotated to desired positions before assembling these components together (e.g., via a studded connection)."); *id.* at 8:44-48, 9:16-20. Thus, the entirety of the '645 Patent addresses a single problem—the difficulty of adjusting heavy, rigid connections—and provides one solution, found in every embodiment—adjustment or swivel joints. Tolman Decl. ¶ 42.

A POSITA would further recognize that the '645 Patent does not disclose *any* embodiment where the frac system is without some form of adjustment joint. *Id.* ¶ 43. Again, this is important

because context matters. *O2 Micro*, 521 F.3d at 1351. The ultimate question then is whether a POSITA, having reviewed the entire specification—discussing only the problem of "making adjustments" between "large and heavy" fracturing manifolds and fracturing trees and disclosing only solutions in the form of adjustment and swivel joints—would conclude that the claimed "[rigid] fluid pathway" excludes the only purported point of novelty. The answer is clearly no. A POSITA would understand that the phrase "[rigid] fluid pathway" refers to a fluid route having an adjustment or swivel joint, which provides the fundamental and indispensable feature of the invention. Tolman Decl. ¶ 44. As with "fluid conduit" in the '132 Patent, "[rigid] fluid pathway" must include the "fundamental feature of the invention." *Praxair, Inc.*, 543 F.3d at 1324.

Plaintiff again proposes plain and ordinary meaning in order to read the claims on non-adjustable systems, improperly viewing the claims in a vacuum. *Adams Respiratory Therapeutics, Inc.*, 616 F.3d at 1290. Plaintiff cannot point to a single embodiment in the '645 Patent that excludes the fundamental adjustability feature, or that uses only non-adjustable components. The reason that no such disclosure exists is that an embodiment lacking adjustability would be incapable of solving the problem repeatedly called out in the '645 Patent. Nothing in the '645 Patent supports that a POSITA reading the claimed "fluid conduit" to include non-adjustable components. For these reasons, the proposal of plain and ordinary meaning should be rejected.

C. "a first connection block *positioned at* the well fracturing tree" ('132 Patent, Cl. 9)

Nitro's Construction	Plaintiff's Construction
indefinite	plain and ordinary meaning

Nitro asserts that this phrase renders the claim indefinite. Plaintiff asserts the term has its plain and ordinary meaning, even though in co-pending litigation (where the defendant took the same position as Nitro) Plaintiff asserts this term should be construed to mean "attached to or adjacent to." *Butch's Rat Hole*, 6:20-cv-00124-ADA, Dkt. 27 at 17.

A patent claim must inform a POSITA about the scope of the invention with "reasonable certainty." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 909-10 (2014). This requirement ensures that the disclosure provides clear notice, eliminating any "zone of uncertainty," so that potential competitors may know what is claimed and what would infringe. *Id.* Here, a POSITA has no way of reasonably discerning the scope of "positioned at." Tolman Decl. ¶ 30. This phrase connotes an object positioned within a certain proximity of another object, which in the context of the claim is the proximity of the connection block to the frac tree. Tolman Decl. ¶ 31. But nothing in the patent provides a POSITA with any guidance as to the outer limits of this "proximity." *Id.* Obviously, "positioned at" includes a connection block on top of or directly touching the tree, but does it include a connection block positioned 6 inches away? 5 feet away? 50 feet away? There is no way to know, rendering the claim indefinite. *Id.*

Plaintiff's position cannot be based on the intrinsic evidence, because nothing in the specification informs a POSITA what "positioned at" means. This phrase is not used anywhere else in the specification, and the '132 Patent provides no details about the required location of the connection blocks relative to the trees. The construction proposed by Plaintiff in the Butch's lawsuit (i.e., "attached to or adjacent to") only further proves this phrase is indefinite. For one, whether something is "attached" to an object is completely irrelevant to whether it is "positioned at" the object. *Id.* ¶ 32. A connection block could be attached to a tree via a 50-foot pipe, but the block would clearly not be "positioned at" the tree. *Id.* ¶ 33. Second, Plaintiff's proposal of "adjacent" substitutes one indefinite term ("positioned at") for another ("adjacent"), as "adjacent" refers to the "nearness" of one thing to another without any objective limit. *Id.* ¶ 34. In fact, the patent describes the wellheads 16 as "adjacent" to one another and the connection blocks 48 as "adjacent" to one another, even though they are clearly spaced relatively far apart. *Id.* (citing Ex.

1, 5:20-25, 5:62-66). Thus, "adjacent" is just as indeterminate as "positioned at." *Id.*

D. "connection block" ('132 Patent, Cl. 9)

Nitro's Construction	Plaintiff's Construction
a rigid connector capable of changing the direction of flow therethrough and having at least two openings	plain and ordinary meaning

"Connection block" has no ordinary meaning in the industry. *See, e.g.* www.glossary.oifield.slb.com; https://www.iadclexicon.org/. Plaintiff's proposal would apparently cover any component connecting two things. The specification proves otherwise.

In the specification, the term references components 48 in Figs. 3-5, which show different views of the same system. Ex. 1, 2:34-41, 4:4, 4:67, 5:66. Annotated Fig. 3 shows the connection blocks (green). As shown and described, each **connection block** is a rigid component connecting at least two other components—**pivot joints 56** (which attach to pipes 44) and **valves 50**. The blocks have multiple openings, although not all are necessarily used. Thus, the blocks can be configured as a "tee" (all three connections used), as in the middle block, or an "elbow" (two connections at right angles, with the third connection closed off) as in the two end blocks. In each instance, the connection blocks 48 change the direction of fluid flow. Thus, as used in the patent, "connection block" refers to a rigid component used to connect other components—a connector—having a passage that is *capable* of changing the direction of fluid flow.

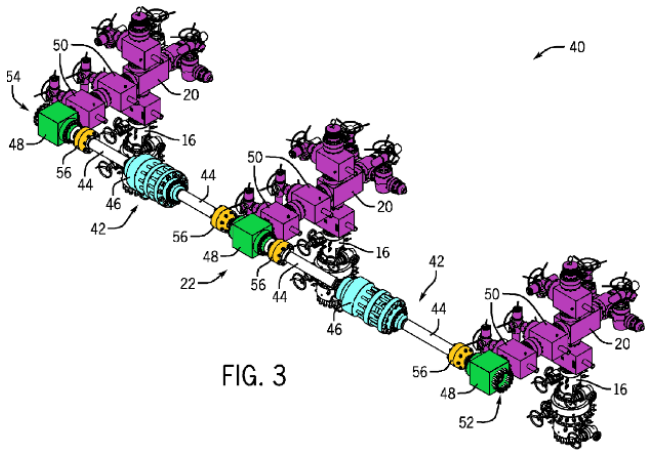


FIG. 3

Plaintiff's proposal of plain and ordinary meaning should be rejected because the patent does not refer to other components, such as adjustment joint 42 or valve 50, as "connection blocks," even though these components obviously connect portions of the system. The patent clearly uses "connection block" to refer to components that are capable of, but not required to,

change the direction of fluid flow, and that term is clearly distinguished from the various other components in the disclosed embodiments.

E. "fracturing operation" ('132 Patent Cl. 9)

Nitro's Construction	Plaintiff's Construction
an act of injecting fluid into a well to create man-made fractures in a hydrocarbon bearing formation	plain and ordinary meaning

Nitro proposes a construction to clarify the meaning of "fracturing" for the jury, and to make clear that a *single* act of injecting fluid into a formation (e.g., turning on a pump to inject fluid and then turning the pump off) qualifies as a "fracturing operation." Absent this clarification, Plaintiff may take the position that "fracturing operation" refers only to the *collective* fracturing acts performed at a wellsite, even though *multiple* fracturing operations take place at a well site.

The specification refers to the "fracturing process," which is described as "creating one or more man-made fractures in a rock formation" and which typically includes "injecting a fracturing fluid—which is often a mixture or slurry including sand and water—into the well to increase the well's pressure and form the man-made fractures." Ex. 1, 1:33-42. Thus, "fracturing" is construed consistently with the specification. With respect to "operation," a single act such as turning a pump on and off to inject fluid into a well is an "operation" as a matter of common sense. Thus, Nitro merely requests that the Court clarify this point to avoid later disputes before the jury.

F. "fracturing tree" ('132 Patent, Cls. 9, 10, 12) / "fracturing trees" ('645 Patent, Cls. 1-4, 13, 17, 20)

Nitro's Construction	Plaintiff's Construction
a wellhead assembly having at least one valve that can control the flow of fluid during a fracturing operation	a specific type of Christmas tree installed specifically for the fracturing process

Plaintiff limits "fracturing tree" to a specific type of Christmas tree, with a higher-pressure rating and bore diameter. However, a frac tree is merely a Christmas tree used for fracturing, which may or may not have these features.

In a final written decision on a related patent,[3] the PTAB rejected Plaintiff's construction, finding that "a fracturing tree is a tree used to facilitate a fracturing process, and does not require a tree of a particular size or weight or a tree that is temporarily installed only for the fracturing process. Ex. 7 at 20. This interpretation is consistent with the specification of both patents.

Both Patents-in-Suit states that drilling and production systems generally include a wellhead assembly, which may include a wide variety of components, and that such wellhead assemblies may use a fracturing tree to facilitate a fracturing process. Ex. 1, 1:22-30; Ex. 2, 1:22-30. The specifications explain that "such systems generally include a wellhead assembly through which the resource [i.e., oil and gas] is extracted." Ex. 1 at 1:22-24; Ex. 2, 1:22-24. The fracturing tree is later described as including "at least one valve that controls flow of fracturing fluid" into the well. Ex. 1, 3:39-42; Ex. 2, 3:35-48.

In the industry, "fracturing tree" refers to a "Christmas tree" used for fracturing, regardless of whether it was originally installed for the purpose of fracturing. A "Christmas tree" is simply the collective set of components connected to the top of a well which, among other potential functions, directs and control the flow of fluid into or out of the well. Ex. 8 at NITRO-000963. "Christmas tree" refers to trees used during both drilling and well completions (which includes fracturing). Ex. 8 at NITRO-000969.

Plaintiff's construction would require "fracturing trees" to be trees that have a higher-pressure rating and internal diameter than other trees, and which are installed solely for fracturing. While that is a type of fracturing tree, it is not the only type of fracturing tree. This is plain even in the entry for "frac tree" in the on-line dictionary of Cameron's corporate parent Schlumberger,

[3] U.S. Patent 9,932,800 (Ex. 6). The '645 Patent and the '800 Patent are both continuations from the same application, which issued as Pat. 10,094,195. Thus, the '645 patent has substantively identical disclosures to the '800 Patent.

which states only that "[f]rac trees ***generally*** have larger bores and higher pressure ratings than production trees." Ex. 8 at NITRO-000970. Plaintiff's expert admits that "fracturing tree" as understood in the industry does not always have higher pressure rating and larger internal diameter than a production tree. Ex. 9 at 117:3-13. Plaintiff's construction is also at odds with both specifications, which each state that the trees are part of a wellhead assembly "through which the resource is extracted" (i.e., used for production). Both patents explain that a fracturing tree has a valve to control flow of both fracturing fluids and production fluids. Therefore, "fracturing trees" must be broad enough to include Christmas trees ordinarily used for production, which do not have larger bore sizes or higher-pressure ratings, through which oil and gas is produced (i.e., extracted).

G. "fracturing manifold" / "fracturing fluid distribution manifold" ('645 Patent, Cls. 1-4, 10, 13, 17, 20)

Nitro's Construction	Cameron's Construction
A pipe or chamber with multiple outlets for delivering fracturing fluid to a well	a series of pipes, connections, and valves that direct fracturing fluid from a fracturing fluid supply to individual wells

The parties' dispute centers on whether the claimed fracturing manifolds would be understood to require a valve. Independent claims 1, 10, 17, and 20 require a "fracturing manifold" or a "fracturing fluid distribution manifold." In either dependent claims (claims 2, 3, 18) or in an independent claims (claim 10), these manifolds are further required to include outlet branches having valves. Claim 17, for example, requires a manifold having only trunk line with multiple outlets. Thus, the independent claims indicate that "fracturing manifold" and "fracturing fluid distribution manifold" do not require outlet branches or one or more valves; otherwise, there would be no reason to include those limitations in dependent claims or to separately recite them. All that is required is a trunk line and multiple outlets.

This is consistent with the specification, which states, with regard to the background, that "[a] fracturing manifold may provide fracturing fluid to one or more fracturing trees via fracturing

lines (e.g., pipes)." Ex. 2, 1:42-44. The manifold of a preferred embodiment (Figs. 1, 2) is described or shown as having "at least one valve that controls flow of the fracturing fluid" to the well. *Id.*, 3:45-48. The specification does not clearly identify what is or is not necessarily part of the manifold with respect to any other embodiment, except for piping. *See, e.g., id.* at 4:16-37 (explaining that the manifold 22 includes conduit 42 that routes fluid to valves 44 and 46, but not requiring the valves be part of the manifold itself). Moreover, the '132 Patent itself demonstrates that a "fracturing manifold" would be understood to not require valves, as the "fracturing manifold" 22 is repeatedly described as having no valves. *See Id.* at 4:28-31; *id.* at 4:31-32; *Id.* at 4:43-47. The only portion of the specification not directed at a preferred embodiment is in the "Background," which only requires the manifold to include fracturing lines, e.g., pipes. There is no reference to other components.

"Fracturing manifold" is a commonly used phrase in the industry, but it does not have a widely accepted meaning. A manifold may have pipes, connections, and valves, but as Cameron's expert has previously explained, there is no requirement that these components be included. *See, e.g.*, Ex. 9 at 115:10-24. The absence of an accepted meaning is confirmed by multiple meanings available in industry glossaries. Ex. 8 at NITRO-001046-51.

Accordingly, consistent with all of the claims, "fracturing manifold" should be construed as simply "a pipe or chamber with multiple outlets for delivering fracturing fluid to a well."

IV. Conclusion

For the reasons discussed above, Nitro respectfully requests that the Court adopt its proposed constructions. They most naturally align with the specifications and disclosed invention.

September 4, 2020

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 4th day of September 2020 a true and correct copy of the above motion was electronically filed with the Clerk of Court using the CM/ECF system, which sends notifications of such filing to all counsel of record who have consented to accept service by electronic means.

/s/ Sherri Brunner
Sherri Brunner